

If the peristome is in a normal condition, it will be found to be extremely sensitive to changes in moisture, responding perhaps to the ordinary breathing of the observer or at least to a gentle blowing. As in mosses in general, the teeth draw inward and close together on absorbing moisture and execute the reverse movements on drying. The equilibrium of a capsule balanced in the manner described is unstable at best, but it can be easily rendered stable and permanent by the use of various adhesives. Professor Francis E. Lloyd suggested to the writer the use of paraffin for this purpose and this has proved a convenient medium. A very small quantity of paraffin is melted on a glass slide and the capsule is placed in contact with it and held in position, mouth upward, until the paraffin hardens. Preparations made in this way may be laid aside for future use. The matured capsule, peristome, annulus, etc., may of course be subjected to further study in the usual manner, not neglecting the important fact of the presence of stomata, which may be found near the base of the capsule.

Formalin-preserved material of *Funaria* with young sporophytes is valuable, among other things, for demonstrating the structural independence of gametophyte and sporophyte. With the right kind of a pull, the young sporophyte may often be separated from the gametophyte in such a way that a microscopical examination of its foot will show that the act was accompanied by no rupture of cells. But for this special purpose *Funaria* is perhaps no better than many other mosses.

SHORTER NOTES

A NEW HAWKWEED FROM FLORIDA.—Contained in an interesting collection of plants made in the vicinity of Tallahassee, Florida, by Mr. N. K. Berg, and received from him several years ago by Dr. Small, is a single well-preserved specimen of a hawkweed which differs widely from any species known to me, and I can find no plant described which answers to its peculiar characters. In a genus of so many species, and these so very widely distributed there is chance that this plant may have been recorded

by some previous author, but this chance is not very great, for the North American species have been considerably studied, and doubtless most of the forms deserving recognition as species are fairly well understood. The plant may be characterized as follows:

Hieracium Floridanum. — Stem tall, stout, villous-hirsute below the middle, over 1 m. high, paniculately branched above the middle, the branches slender, erect-ascending; no basal leaves at flowering time: stem leaves broadly oval to elliptic or ovate-oval, firm, the lower 9 cm. long, 4-5 cm. wide, rounded at the apex, subcordate-clasping at the base, loosely villous-hirsute on both sides, entire, with numerous minute glands on the margins, the upper leaves gradually smaller, the uppermost acute: panicle 6 dm. long or more, naked, ample, its branchlets glandular; heads very numerous, 20-25-flowered; involucre 8 mm. high, its principal bracts in one series, linear, acutish, glandular, the much shorter outer ones triangular-lanceolate, acuminate or acute: achenes columnar, 4 mm. long, truncate, slightly narrowed above, a little shorter than the brown pappus.

The sessile half-clasping leaves extend down the stem to the fourth node above the mass of fibrous roots. They are very numerous and the internodes not over 2 cm. long. From the character of the achenes the species is apparently more nearly related to *H. Marianum* than to any other North American plant.

—N. L. BRITTON.

A NEW ARNICA FROM OREGON.—**Arnica aurantiaca.** Sub-alpine, low, forming dense patches, the simple monocephalous stems 2-6 inches high from horizontal rootstocks: leaves in about 3 pairs, the lowest broadly oblong, obtuse, the others broadly lanceolate, attenuate-acute, all entire, glabrous or nearly so, except the woolly-ciliate margin: slender peduncle sparingly woolly-hairy and minutely glandular: involucre broadly turbinate, its thin lanceolate bracts about 10, scarcely biserial, narrowly lanceolate, woolly at base, the margins obscurely glandular-ciliolate: flowers both of ray and disk orange-color: achenes silky-villous: pappus white, barbellulate.

At the head of Keystone Creek, Wallowa Mountains, Oregon, at about 7,000 feet, Aug., 1900, W. C. Cusick. A small sub-alpine species, uncommonly well marked by its deeply colored flowers, and silky achenes.

ARNICA CROCINA is a name to be assigned the *A. crocea* of Pittonia, 4: 159, in view of the fact that the Linnaean name of

what has since been transferred to *Gerbera* was *Arnica crocea*.—

EDWARD L. GREENE.

A NEW PANICULARIA.—**Panicularia Holmii.** A pale perennial 25–50 cm. high, spreading by rootstocks: leaves 4–6, scabrous; the upper ligule 5–7 mm. long; blades flat, acuminate, 4–12 cm. long, 4–7 mm. wide: panicle open, lax, 5–8 cm. long, rays in pairs, the longest 4–5 cm. long, bearing about 20 spikelets on the outer half: spikelets 2–3-flowered, joint of rachilla 0.5 mm. long; first empty glume hyaline, ovate, 1 mm. long with one obscure nerve; second, hyaline, oval, 1.3 mm. long with three obscure nerves: floret scabrid, oblong, 2–2.2 mm. long, floral glume broadly oval when spread, 5-nerved, apex subtruncate, irregularly toothed; paler while attached, extending to the apex of its glume: grain elliptical, 1 mm. long, base acute, apex truncate.

Near to *Panicularia pallida*; the blades wider, spikelets mostly 2-flowered, empty glumes shorter, floret shorter, floral glumes 5-nerved instead of 7-nerved.

Growing in a creek at a beaver-dam in dense thickets of *Salix*, near Lamb's Ranch at Long's Peak, Colorado; altitude, 8,600 feet.

No. 249. Collected by Theo. Holm, July 8, 1899, for whom it is named.—W. J. BEAL.

NATURALIZED OR ADVENTIVE NARCISSI.—Mr. C. L. Gruber writes as follows from Kutztown, Pa. "I have repeatedly found two species of *Narcissus* running wild, escaped from cultivation: *Narcissus Pseudo-Narcissus* (daffodil) and *Narcissus poeticus*. *Pseudo-Narcissus* I have found at a number of places, usually on warm slopes of meadows, in the vicinity of gardens; and *N. poeticus* I have found in meadows, unused portions of cemeteries and on one occasion in an orchard adjoining a garden."

REVIEWS

MYCOPHAGY AND ITS LITERATURE

Some five years ago an extensive interest began to be displayed in this country toward the subject of edible fungi. It is probable that a part at least of this interest was stimulated